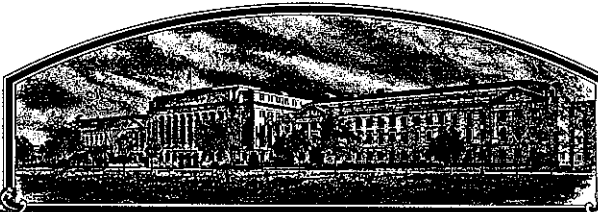


No.

8700042



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Nickerson American Plant Breeders, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS MUCH OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Nordic'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D. C. this 31st day of August in the year of our Lord one thousand nine hundred and eighty-eight.

Attest

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Richard E. Lyng
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

1. NAME OF APPLICANT(S) Nickerson American Plant Breeders Inc.		2. TEMPORARY DESIGNATION HS82-175		3. VARIETY NAME Nordic	
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 5201 Johnson Drive Mission, Kansas 66205		5. PHONE (Include area code) (913)384-4949 KS (303)532-3721		FOR OFFICIAL USE ONLY PVPO NUMBER 8700042	
6. GENUS AND SPECIES NAME Triticum aestivum		7. FAMILY NAME (Botanical) Gramineae		FILING DATE January 3, 1987 TIME 2:00 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.	
8. KIND NAME Hard Red Spring Wheat		9. DATE OF DETERMINATION 1=1982 2=1985		AMOUNT FOR FILING \$ 1800.00 DATE December 29, 1986	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation				AMOUNT FOR CERTIFICATE \$ 200.00 DATE July 26, 1988	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware				12. DATE OF INCORPORATION January 19, 1983	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS R.E. Heiner 5201 Johnson Drive OR R.F. Bruns or C. Bruns Mission, KS 66205 P.O. Box 30 (913)384-4940 Berthoud, CO 80513 PHONE (Include area code): (303)532-3721					
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED					
a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)					
b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement.					
c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety (Request form from Plant Variety Protection Office.)					
d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of Variety.					
e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership. Exhibit F. Quality and Agronomic Data					
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.) <input checked="" type="checkbox"/> Yes (If "Yes," answer items 16 and 17 below) <input type="checkbox"/> No					
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input checked="" type="checkbox"/> Foundation <input checked="" type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified		
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <input type="checkbox"/> Yes (If "Yes," give date) <input checked="" type="checkbox"/> No					
19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" type="checkbox"/> No					
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF APPLICANT Robert Bruns				DATE 12-11-86	
SIGNATURE OF APPLICANT R.E. Heiner				DATE 12-22-86	

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF NORDIC

Nordic originated from the cross 'Web 13-3/MN7125' which was made at Berthoud, Colorado in 1979. F2 selections from this cross were advanced in the greenhouse through the F4 generation by single seed descent. The original bulk was from a single F5 head-row selection made at an AgriPro breeding nursery in Hunter, North Dakota in 1981. This bulk was entered into yield trials in 1982 under the experimental number HS82-175. This line has been yield tested in AgriPro nurseries in the Red River Valley from 1982 to 1986. It has been tested in the Northern Uniform Regional Nursery in 1985 and 1986. It has also been tested in North Dakota, South Dakota and Minnesota state nurseries in 1986.

There were 300 head-rows grown in Berthoud, CO in 1984 and 264 were selected to produce breeder seed. Approximately 4,450 pounds of breeder seed was produced in Berthoud, CO in 1985.

Nordic is uniform and stable. Less than 1% of the plants were rogued from the foundation fields in 1986. Approximately 90% of these rogued variant plants were 8 to 15 centimeters taller than Nordic. Less than .5% of these total variant plants may be encountered in subsequent generations.

EXHIBIT B

NOVELTY STATEMENT

Nordic is most similar in appearance to the hard red spring wheat McKay. However, it can be easily distinguished by the following morphological characteristics:

- Nordic is a distinct blue-green plant color at anthesis.
McKay has a green plant color at anthesis.
- Nordic and McKay both have acuminate type beaks.
However, Nordic's beak length is significantly longer
(see statistical data following page).

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ANOVA TABLE FOR BEAK LENGTH
NORDIC VERSUS MCKAY

SOURCE	DF	SS	MS
TOTAL	49	49.660	
VAR	1	22.045	22.04486
ERROR	48	27.615	0.57532

F-TEST = 38.318**
CV = 7.590
LSD = 0.086

MEANS FOR EACH VARIETY
MCKAY MEAN: 2.336 mm's
NORDIC MEAN: 3.664 mm's

** The difference in means of beak length are significantly different at the 1% probability level.

"Nordic"

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY

WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

Nickerson American Plant Breeders Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

5201 Johnson Drive
Mission, KS 66205

FOR OFFICIAL USE ONLY

PVPO NUMBER

8700042

VARIETY NAME OR TEMPORARY
DESIGNATION

NORDIC

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (e.g., or) when number is either 99 or less or 9 or less.

1. KIND:

1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

1 = SPRING 2 = WINTER 3 = OTHER (Specify) 1 = SOFT 3 = OTHER (Specify)
2 = HARD

1 = WHITE 2 = RED 3 = OTHER (Specify)

3. SEASON - NUMBER OF DAYS FROM TO:

FIRST FLOWERING planting LAST FLOWERING

4. MATURITY (50% Flowering):

Equal to Marshall

NO. OF DAYS EARLIER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS

NO. OF DAYS LATER THAN 4 = LEMHI 5 = NUGAINES 6 = LEEDS 7 = Marshall

5. PLANT HEIGHT (From soil level to top of head):

CM. HIGH

CM. TALLER THAN

CM. SHORTER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS 7 = Marshall
4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING (See reverse):

1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHR COLOR:

1 = YELLOW 2 = PURPLE

8. STEM:

Anthracnose: 1 = ABSENT 2 = PRESENT

Waxy bloom: 1 = ABSENT 2 = PRESENT

Hairiness of first internode of rachis: 1 = ABSENT 2 = PRESENT

Internodes: 1 = HOLLOW 2 = SOLID

NO. OF NODES (Originating from node above ground)

CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

Anthocyanin: 1 = ABSENT 2 = PRESENT

Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

Flag leaf at booting stage: 1 = ERECT 2 = RECURVED
3 = OTHER (Specify):

Flag leaf: 1 = NOT TWISTED 2 = TWISTED

Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT

Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

MM. LEAF WIDTH (First leaf below flag leaf)

CM. LEAF LENGTH (First leaf below flag leaf):

11. HEAD:

Density: 1 = LAX 2 = DENSE 3 = Middense Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____
 Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED
 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify) _____
 CM. LENGTH MM. WIDTH

12. GLUMES AT MATURITY:

Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.) Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

Shoulder: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED shape: 4 = SQUARE 5 = ELEVATED 6 = APICULATE

Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE ave. mm

13. COLEOPTILE COLOR:

1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL Cheek: 1 = ROUNDED 2 = ANGULAR
 Brush: 1 = SHORT 2 = midlong 3 = LONG Brush: 1 = NOT COLLARED 2 = COLLARED
 Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK
 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____
 MM. LENGTH MM. WIDTH GM. PER 1000 SEEDS

17. SEED CREASE:

Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI' Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3 = Moderately Susceptible 4 = Moderately Resistant

STEM RUST (Races) field races LEAF RUST (Races) field races STRIPE RUST (Races) LOOSE SMUT
 POWDERY MILDEW BUNT OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3 = Moderately Susceptible 4 = Moderately Resistant

SAWFLY APHID (Bydv.) GREEN BUG CEREAL LEAF BEETLE
 OTHER (Specify) _____ HESSIAN FLY RACES: GP A B C D E F G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	McKay	Seed size	Oslo
Leaf size	McKay	Seed shape	Oslo
Leaf color	Buckshot	Coleoptile elongation	McKay
Leaf carriage	McKay	Seedling pigmentation	McKay

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L. T. Briggie and L. P. Reitz, 1964, Classification of Triticum Species and Their Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W. E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Mineral Purity, Contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

EXHIBIT D
ADDITIONAL DESCRIPTION OF NORDIC

Nordic is a hard red spring wheat bred and developed by Nickerson American Plant Breeders Inc.

Nordic is a tall semidwarf height variety with good straw strength characteristics and medium to late maturity. Milling and baking properties are satisfactory.

Juvenile plant growth habit is erect. Plant color at boot is blue-green with an erect, twisted flag leaf. Head shape is tapering to strap, middense, awned and head color is white at maturity. Glumes are midwide and long with oblique to rounded shoulders and acuminate beaks. Seed shape is elliptical to ovate with rounded cheeks; seed crease is narrow and shallow.

Nordic is primarily adapted to the spring wheat region of the upper Midwest.

EXHIBIT E

STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

Nickerson American Plant Breeders Inc. is the applicant for protection in this case being:

- a) The incorporated business (registered in Delaware) for and within which regular employees have bred the named variety.
- b) The proprietary owner and intending commercial user of the variety.

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EXHIBIT F
QUALITY AND AGRONOMIC DATA

QUALITY DATA	1
AGRONOMIC DATA	2

AGRIPO SEEDS

YEAR: 1986

HARD RED SPRING WHEAT QUALITY

PAGE 1

YEAR	SAMPLE NAME	LOC	WHEAT--FLOUR QUALITY										BAKING QUALITY										MILL SCORE	BAKE SCORE	TOTAL SCORE
			TEST WT.	WHT PROT	FLR YLD	FLR PROT	FLR 14%mb	FLR 14%mb	R	MIX CURVE	ABS.	TIME min	R	CC	VOL	CHAR	LOAF	CRUMB							
																		GRN	TEX	COOL					
			lb/Bu	14%mb	%	14%mb	14%mb			%	min	R	cc				R	R	R						
86	NORDIC	CY	59.7	13.0	68.9	12.5	0.409	6	63.0	4.0	7	1000+	5	8	8	8	8	8	8	74-C	85-B	159-C			
86	NORDIC	ST	60.8	12.7	72.9	11.7	0.380	7	64.0	3.3	8	920	7	7	7	7	7	7	7	79-C	83-B	160-B			
85	H592-175	ST	62.0	12.4	70.8	11.8	0.340	8	65.0	3.8	8	910	8	8	8	8	8	8	8	75-C	88-B	163-B			
85	H592-175	ST	62.7	12.8	69.1	11.5	0.333	8	64.0	3.3	7	990	6	8	8	8	8	8	8	75-C	83-B	158-C			
85	H592-175	HU	60.6	12.8	71.0	12.1	0.374	8	65.0	3.5	7	940	7	8	8	8	8	8	8	81-B	86-B	167-B			
85	H592-175	HU	62.3	13.2	71.3	12.1	0.383	8	66.0	3.0	7	970	8	7	7	7	7	7	7	83-B	84-B	165-B			
85	H592-175	CX	60.8	12.9	69.2	11.8	0.360	8	65.0	3.8	7	910	7	8	8	8	8	8	8	74-C	87-B	161-B			
85	H592-175	CX	61.2	12.9	69.7	11.9	0.383	7	64.0	3.0	7	910	7	7	7	7	7	7	7	73-C	85-B	163-C			
85	H592-175	CY	62.2	13.9	67.4	11.9	0.331	7	64.0	3.8	7	960	7	8	8	8	8	8	8	73-C	88-B	161-B			
85	H592-175	CY	61.1	13.2	69.1	12.0	0.368	7	64.0	4.0	7	960	8	8	8	8	8	8	8	77-C	88-B	165-B			
84	H592-175	SP	63.3	13.7	72.6	12.1	0.351	7	64.0	3.5	6	900	8	8	8	8	8	8	8	83-B	83-B	163-B			
84	H592-175	HU	62.0	13.2	73.5	12.1	0.414	6	64.0	3.5	8	900	8	8	8	8	8	8	8	79-C	83-B	163-B			
84	H592-175	CY	63.4	13.2	71.6	11.9	0.354	6	65.0	2.0	8	950	8	8	8	8	8	8	8	76-C	82-B	158-C			
84	H592-175	CX	63.3	12.7	70.0	11.8	0.383	6	63.0	4.5	8	880	8	8	8	8	8	8	8	72-C	84-B	156-C			
83	H592-175	HU	58.7	14.9	69.7	14.2	0.000	8	65.0	4.0	8	1000+	8	8	8	8	8	8	8	84-B	84-A	173-B			
83	H592-175	CX	60.2	13.7	70.8	12.2	0.000	5	62.0	4.0	8	925	8	8	8	8	8	8	8	75-C	84-B	159-C			
AVERAGE			61.4	13.2	70.4	12.1	0.369	7	64.2	3.6	7	934	7	8	8	8	8	8	8	78-C	84-B	162-B			

GRADES: A-EXCELLENT B-6000 C-ACCEPTABLE D-QUESTIONABLE F-UNACCEPTABLE
 R-RATINGS: 9-10=EXCELLENT 8=6000 7=ACCEPTABLE 5-6=QUESTIONABLE 1-4=UNACCEPTABLE

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REGIONAL SUMMARY OF AGRIPO AND OTHER SELECTED VARIETIES

Variety	Yield - Bu/A			3-Year Avg.	% of Wheaton	T.Wt.(14) lbs/bu	Ht.(14) cm	Lodg.(5) 1-9	Head.(15) days
	84(4)	85(5)	86(4)						
Nordic	71.4	90.6	56.5	74.2	103	61.3	83.4	4.7	59.8
Erik	66.4	87.9	60.7	72.9	101	59.2	81.7	4.8	61.2
Wheaton	68.2	85.4	57.9	72.5	100	58.9	77.9	3.3	58.8
Telemark	67.3	86.7	58.3	72.0	99	59.1	75.0	1.2	58.0
Norseman	68.4	87.1	54.6	71.3	98	58.3	76.1	1.8	59.6
Marshall	65.1	86.3	58.0	71.0	98	59.9	78.9	2.8	59.7
Celtic	64.5	80.3	53.2	67.1	92	60.2	83.4	3.5	57.9
Oslo	62.5	82.2	52.4	67.0	92	58.7	78.6	1.5	56.0
2369	65.8	76.9	55.6	66.9	92	59.7	79.3	2.9	58.1
Stoa	65.4	77.7	53.9	66.6	92	59.6	95.6	3.8	57.6
Era	58.8	84.0	52.2	66.5	92	59.6	79.0	5.0	61.0
Len	63.7	77.5	52.3	65.5	90	60.0	82.6	2.4	58.7
Guard	61.2	76.6	51.8	64.2	88	59.4	81.2	2.1	56.4
Butte	57.9	69.9	49.4	59.9	83	60.5	90.6	5.4	55.6

() - indicates number of locations